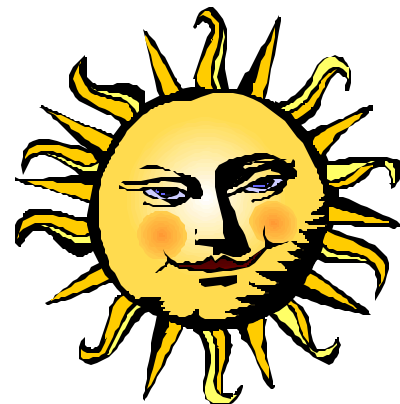
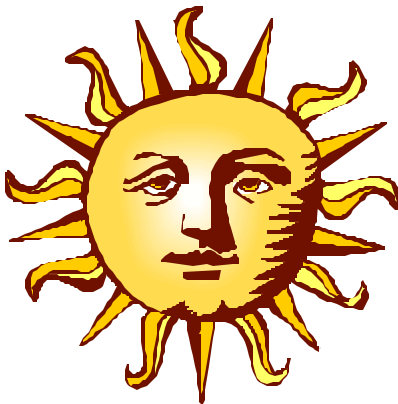


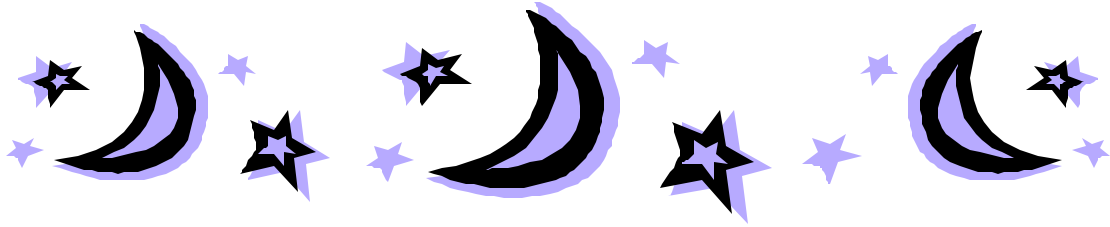
NATURAL DISASTERS

Thematic Unit - 2000



"Natural Disasters"

An Integrated Science Unit



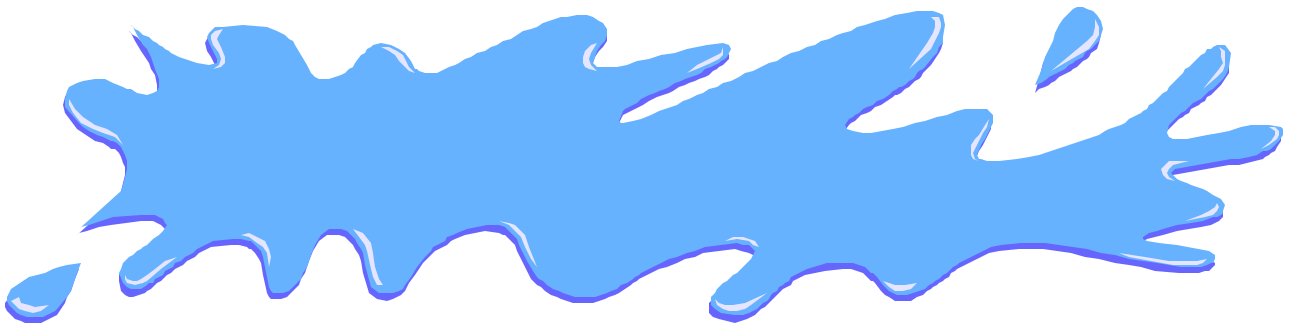
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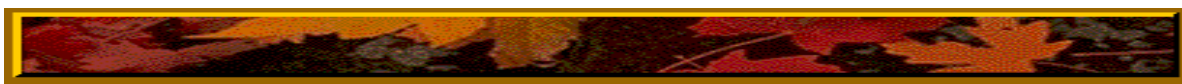
ABSTRACT



Understanding the mechanisms of natural events such as earthquakes, volcanic eruptions, floods, hurricanes, and tornadoes is important for the United States and the world at large. Natural disasters have cost the U.S. alone, 50 billion dollars in recent years. By better understanding why natural events occur, we can plan and manage in ways that will lessen the severity of these hazards. Through scientific research, earth science educational programs, and societal planning and preparedness, not only will the damaging effects of natural hazards be reduced, but also we will better understand the Earth on which we live.

By studying these disasters, students will begin to understand the significance these events have on our world. Students will create models of various natural disasters, and collect data to gain understanding. Models of tornadoes and volcanoes, illustrations of hurricanes and earthquakes, and data collection of flooding will all help the student learn more about natural disasters.

Students will learn what they can do to prepare for a natural disaster. They will learn where (geographically) certain natural disasters are most likely to occur, and learn what they need to do in a given disaster situation.



Goal

The goal of this unit is for students to develop an understanding of natural disasters, and how they affect our lives.

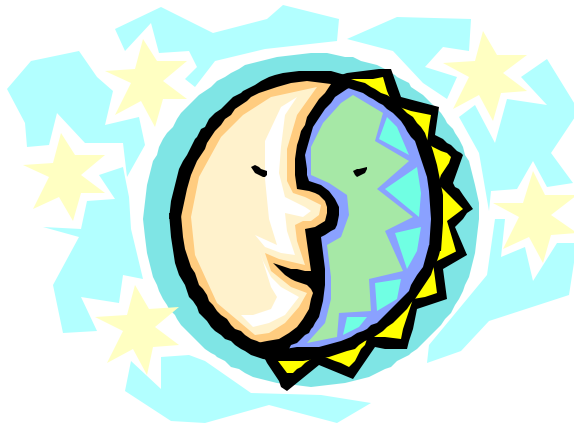




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West Virginia Instructional Goals and Objectives

Science

- 6.1 Develop a conceptual framework of scientific principles.
- 6.5 Logical reasoning in investigating the observable universe.
- 6.7 Acquire a holistic view of scientific knowledge by integrating mathematics with the science curriculum.
- 6.8 Use a variety of activities and investigations to produce a sense of wonder about the natural world and the joy of discovery.
- 6.9 Recognize that the exploration of science is challenging and fulfilling and establishes patterns of lifelong curiosity and learning.
- 6.10 Cooperate and collaborate to ask questions, find answers solve problems and conduct investigations to further an appreciation and joy of scientific discovery.
- 6.11 Process and integrate experiences with prior knowledge to formulate new ideas.
- 6.13 Formulate conclusions through close observations
- 6.16 Construct and use charts to organize, display, interpret, analyze and explain data.
- 6.17 Use inferential reasoning to make logical conclusions from collected data (e.g., extrapolation, interpolation.)
- 6.24 Develop through the study of interdependent themes including systems, and understanding of earth/space concepts.
- 6.71 Investigate weather (e.g., forecasting, data, methods, making and using maps, thunderstorms, tornadoes, hurricanes)
- 6.98 Retrieve current data from a variety of electronic sources which might include the Internet.

Math

- 6.24 Collect, organize, display, and interpret data using line graphs, bar graphs, tables, charts.
- 6.43 Use prior knowledge of customary and metric measures of capacity/volume to solve problems.
- 6.44 Solve application problems using measurement including elapsed time.
- 6.46 Select appropriate units to determine volume using customary and metric units.
- 6.47 Determine measurements indirectly from scale drawings.
- 6.8 Use estimation to solve problems with whole numbers.
- 6.9 Continue to reinforce whole number computation skills, applying them to problem solving situations.

Language Arts

- 6.26 Draw conclusions to describe character traits, thought, feelings, and motives.
- 6.52 Write sentences that are complete, varied, and economical.
- 6.54 Use writing strategies to address specific writing purposes, such as research, creative, journalistic, essay, narrative, informative and persuasive.
- 6.56 Use a writing prompt to develop a composition that addresses the assigned topic.

- 6.64 Use writing strategies to write for audiences, including peers, teachers, and employers.

Social Studies

- 6.26 Solve problems dealing with map locations.
6.28 Explain the changing nature of earth's structure (e.g. earthquakes, volcanoes)

Music

- 6.23 Compare the work of a playwright and a composer in creating an idea or mood.

Art

- 6.1 Use selected media, techniques, and processes to communicate a personal experience or an idea, e.g., watercolor, tempera, ink, fabric, collected materials, montage, weaving, mosaic.

West Virginia I.G.O.'s

Science

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Materials List for the Entire Unit

Materials for each integrated lesson is listed on the individual lesson plans

Plate pieces from Earthquake Worksheet 4

Rubber bands

Earthquake Worksheet 9

Map of the world

Pencils

Scissors

Coffee cans with both ends removed

Ruler with centimeter markings

Board – 2x4

Safety goggles

Chalk

One-liter bottles

Hammer

The Track of Hurricane Andrew worksheet for each student.

Tracking chart for each student

Access to computer (Internet)

Handout

Two-liter plastic bottles

Duct tape

Ruler

Paper towels

Crayons/markers/water colors

Calculators

Map of North America (with Tornado Alley identified)

Poster with drawing of how warm air and cold air move during a tornado

Small glass jar

Saucer

Clay

Baking soda

Red food coloring

Vinegar

Vocabulary List

Buoy
Climate
Cold Front
Earthquake
Eye
Eye wall
Fault
Flash flood
Flood warning
Flood watch
Hurricane
Intensity
Jet Stream
Knots
Latitude
Longitude
Magnitude
Military time
Non-perishable
Plot
Richter Scale
Scale
Surge
Tornado
Tornado Warning
Tornado Watch
Tracking
Tsunami
Warm Front

Disaster Related Internet Sites

<http://www.weather.com/glossary/>

<http://www.valdosta.peachnet.edu/~titipton/topic.html>

<http://school.discovery.com/spring99/programs/dynamicearth/index.html>

<http://school.discovery.com/spring99/programs/dynamicearth/tlc-hurricane/index.html>

http://www.cookps.act.edu.au/l_disasters.htm

<http://k-6educators.about.com/education/k-6educators/msub130.htm>

<http://www.usgs.gov/education/learnweb/EarthS.html>

<http://www.usgs.gov/education/learnweb/volcano/>

<http://k-6educators.about.com/education/k-6educators/msub111.htm?iam=dp&terms=natural+disasters+lesson+plan>

The Disaster Area

Focus group: Grade six

Setting: classroom or computer lab

Goal: The student will be able to know how to prepare for a disaster.

Objectives: Upon completion of this activity, the student will be able to:

1. Identify different types of natural disasters.
2. Prepare a disaster plan.
3. Determine what disaster could befall their area.

Time: Two or three class periods

Alignment with IGO's:

Process skills- investigation, exploration, retrieving, application
Objectives 6.5, 6.8, 6.9, 6.10, 6.71, 6.98

Materials:

1. Access to computer (internet)
2. Handout
3. Pencil

Safety: Follow rules for appropriate use of the internet.

Procedure:

1. **Preassessment**
 - a. Determine knowledge of use of the computer
 - b. Determine knowledge of how to surf the internet
2. **Exploration:**
 - a. Hand out the worksheets.
 - b. Be seated at the computers
 - c. Enter the following address: <http://www.fema.gov/kids> or go to previously bookmarked "FEMA" and click on it.
 - d. Answer the questions on the worksheet by going to the appropriate area of the website.

Concept Development:

1. Students will share information they have gathered.
2. Comparisons will be made to the preparations for disasters.

Concept Application:

1. Students will discuss what areas are more likely to have what type of disaster.
2. What are the different agencies that get involved in the aftermath of a disaster?

Assessment/Evaluation:

1. Write a family disaster plan for a selected disaster.
2. What disaster(s) is your state susceptible to?
3. What are some of the do's and don'ts in a selected disaster?

Authentic Assessment:

Determine if the handout is completely filled out.

Extension:

1. Study a particular disaster.
2. What has the Red Cross done in a previous disaster?
3. What does FEMA do?
4. How well can the disasters be forecast?

Integration:

1. Math – What would the cost be in preparing your home for a hurricane?

2. Language Arts – Books, poems or stories with a disaster theme.
3. Social Studies – Study the parts of the world where certain disasters are more likely to strike.
4. Art – Drawings with a disaster theme (tornado, volcano, etc.)
5. Music – Tie in how music enhances the fear in disaster movies.
6. Health – Different diseases that can be prevalent after a disaster.

Hurricane

Focus group: Sixth Grade

Setting: Classroom

Goal: The students will be able to plot the path of a hurricane.

Objectives: Upon completion of this activity, the students will be able to:

1. Plot the position of Hurricane Andrew for a period of six days.
2. Differentiate between a hurricane watch and hurricane warning.
3. Determine who should receive hurricane warnings and/or watches.

Time: One class period

Alignment with IGO's:

Process skills – integration, processing, formulating conclusions, construction, understanding, investigation
Objectives 6.7, 6.11, 6.13, 6.16, 6.24, 6.71

Materials:

1. The Track of Hurricane Andrew worksheet for each student.
2. Tracking chart for each student
3. Pencil

Safety: Regular classroom rules and procedures apply

Procedure:

1. Preassessment:

- a. Determine knowledge of hurricanes, how they are formed, how they are tracked.
- b. Determine knowledge of latitude and longitude.
- c. Discuss terminology of weather terms associated with hurricanes: watches, warnings, tropical storms, eye wall, storm surge.

2. Exploration:

- a. Hand out the tracking chart and “The Track of Hurricane Andrew” worksheets.
- b. Look at the data in the different parts of the table marked “The Track of Hurricane Andrew.” It contains three types of information:

1. Date/Time: Data was collected on Andrew every six hours beginning August 16 through August 28. Time is given in military time; for example, 1200 is 12:00 noon, and 1800 is 6:00 p.m.
 2. Position: This is the position of the eye of the hurricane by latitude and longitude. It is important to remember that the storm is much bigger than the eye. The winds extend out beyond the eye about 100 km. in all directions. (about $\frac{1}{2}$ the area of one 5 degrees longitude-latitude square on the map).
 3. Wind speed: This is the maximum speed of the winds in the hurricane, not the speed with which the hurricane is actually moving. Wind speed is given in knot (kt). 1kt. = 1.15 mph.
- c. Plot the data given in the tracking table on the map your teacher has supplied. Make a dot for each position of Andrew, and then connect the dots. For each position at the beginning of a day. (Time = 0000), draw a small star over the dot. You will be asked to stop plotting data periodically and issue hurricane warnings and watches based on the path of the hurricane you have plotted. (Remember: A hurricane *warning* means hurricane conditions are likely for a location within 24 hours. A hurricane *watch* means hurricane conditions are likely for a location within 36 hours.)

Concept development:

- a. Students will share their answers to the questions on the worksheet.
- b. Students will show a relationship between hurricane speed and landfall.

Concept application:

At an appropriate time, the Saffir-Simpson scale will be introduced.

Assessment/Evaluation:

- What is the difference between a hurricane watch and a hurricane warning?
- How can the direction of a hurricane be predicted?

Authentic Assessment:

- Assessment through the plotting of the storm
- Assessment through the answers to the questions on the worksheet.

Extension: Comparison of the tracking of other hurricanes.

Impact of economic loss depending on landfall.

What hurricanes are called in other parts of the world.

What conditions need to exist for a tropical storm to develop into a

Hurricane.

Integration:

1. Math: Converting knots to miles per hour, graphing information.
2. Social Studies: Latitude and longitude
3. Geography: Tracking the storms from the coast of Africa.
4. Language Arts: Reading accounts of people who were in hurricanes.
5. Health: Health problems that could be encountered in the aftermath of a hurricane.

TORNADOES

Focus Group: Grade 6

Setting: Classroom

Goal: The students will be able to plot the path of a hurricane.

Objectives: Upon completion of this activity, the students will be able to:

4. Plot the position of Hurricane Andrew for a period of six days.
5. Differentiate between a hurricane watch and hurricane warning.
6. Determine who should receive hurricane warnings and/or watches.

Time: **Two Weeks**

Alignment with the West Virginia IGO'S:

Materials:

1. 2 two-liter plastic bottles
2. duct tape
3. pencil
4. Ruler
5. Paper towels
6. Crayons/markers/water colors
7. Calculators
8. map

Safety: **Regular Classroom rules**

Pre-assessment: Determine prior knowledge of tornadoes by having a class discussion

Exploration: Create a scientific model of a tornado:

1. Fill one two-liter bottle 1/3 full.
2. Dry and cover the mouth of the bottle with duct tape.

3. Punch hole in the center of the tape with a pencil.
4. Place the bottles together so that the mouths touch and line up.
5. Tape the necks of the bottles together.
6. Have one person hold the bottles by the necks with the one containing water on top. Another person should grab the middle of the bottle. Then the first person keeps the bottle vertical and quickly swirls them in figure eights or circles parallel to the floor. The person holding the bottom bottle should squeeze it and release to help the funnel form.
7. Set the bottle on the table, keeping the same bottle on top.
8. Notice how the motion spins the water out to the side of the bottle.

Concept Development:

Record and analyze data

Concept application:

Students will take what they have learned from the tornadoes lesson and apply it to other subjects.

Assessment/Evaluation:

Students will be evaluated on:

1. their model and collection of data
2. their knowledge of how a tornado is formed
3. their knowledge of where the most common sites for tornadoes are found.

Authentic Assessment:

Students will be graded on their knowledge of the material that was covered throughout the lesson.

Extension:

See integrated subject areas

Integration:

1. Math - Students will calculate the distance that a tornado can travel at a given speed.
2. Language arts - Students will write a short fiction story about tornadoes using the information that they have learned in the lesson.
3. Geography - Students will be able to locate the areas where tornadoes are most commonly found.

4. Art - Students will be able to draw an accurate picture of a tornado.

Exploritories: Have students look for recent occurrences of tornadoes on the Internet and write a brief summary of what they found.

Earthquake

Focus group: Sixth Grade

Setting: Classroom

Goal: The students will observe the movements of waves through a solid.
The students will see the relationship between volcanoes and earthquakes.

Objectives: Upon completion of this activity, the students will be able to:

1. Explain what an earthquake is.
2. Explain how a wave moves through a solid.
3. Explain the relationship between volcanoes and earthquakes.

Time: One class period

Alignment with IGO's:

Process skills- demonstrating, manipulation, formulating conclusions, understanding, and investigation

Objectives: 6.1, 6.10, 6.14, 6.16, 6.59, 6.61, 6.68

Materials:

1. Plate pieces from Worksheet 4
2. Rubber bands
3. Worksheet 9
4. Map of the world
5. Pencils
6. Scissors

Safety: Regular classroom rules and procedures apply

Procedure:

1. Preassessment:

- a. Determine knowledge of earthquakes and waves
- b. Discuss the relationship between volcanoes and earthquakes

2. Exploration:

- a. Have the students assemble their plate pieces from worksheet 4. Give each student a copy of worksheet 9. Have them cut out and assemble the plate pieces. Tell them that the pieces that they just cut out represent a clasp of

parts of the Pacific and North American plates. Ask them to find California on their worksheet 9 plates.

- b. Have them look at the arrows on the (Worksheet 4) Pacific plate and on the North American plate and move the plates in the directions of the arrows. Ask, *What is happening to these two plates?* (They are sliding past each other.) Explain that a place on earth where plates slide past each other is called a *fault*. Sometimes the fault can be seen as a crack at the surface of the earth.
- c. Now have them move the plate pieces from Worksheet 4 in the direction of the arrows. Ask, *Can you find a fault on these plate pieces?* (Yes, the San Andreas Fault.) *What do you think happens when plates slide past each other?* (The ground moves.)
- d. Have the students hold their outstretched hands together with the thumbs pointing downward. Demonstrate sliding the hands past each other smoothly. Instruct them to press their hands tightly together while at the same time trying to slide them past each other. Ask, *What happened?* (The hands became stuck.) *Now what happens if we keep pushing harder to try to slide the hands past each other?* (When students try this, one hand should suddenly jerk past the other.)
- e. Tell the students that this is like what happens when rocks at faults become “unstuck.” Explain to the students that the rocks at the plate boundaries are not sliding steadily and smoothly past one another. The rocks are packed tightly together and sometimes the rocks in a certain area become stuck. Ask, *What do you call such a movement of the ground?* (The students may know that this is an earthquake.) Have them repeat the hand demonstration. Ask, *How were your hands like the rocks at a fault?* (The hands became stuck and stopped moving; with more pressure, the hands jerked past each other.)
- f. Divide the class into pairs and give each pair a rubber band. Instruct one student in each pair to stretch the rubber band and the other to pluck it. Ask, *What do you see?* (The rubber band is vibrating.) *What do you hear?* (Sounds.) Tell them that the vibrations from the rubber band are making the sounds. Ask, *Do you think sounds can travel through solids?* (Accept all answers.)
- g. Have one partner tap the desk or tabletop with a pencil while the other partner puts an ear to the top of the desk and listens. Then ask the listener to raise his or her head and listen to the same sound. Ask, *What differences do you hear in the sounds?* (With ear down the noise is louder; it seems to be coming from the inside of the desk.) Ask, *How is the sound traveling?* (The sound is traveling through the material of the desktop.)
- h. Explain that the stretching and snapping of rocks when plates move along fault lines sets up vibrations that travel through the earth. The vibrations cause the shaking of the ground known as an earthquake. Ask, *What might*

happen during an earthquake when the ground vibrates and shakes? (Damage to buildings and other structures.) Why do you think that great earthquakes do not happen very often? (The plates of the crust are moving very slowly.)

- i. Explain that many earthquakes also occur at the plate boundaries where one plate is pushed down under another. Lead the students to infer that when one plate sinks under another, the rubbing causes vibrations and the plate melts into magma, which can rise to the surface and form volcanoes.

Concept Development:

1. Students will discuss earthquakes and relationship to volcanoes.
2. Maps will be used to show high- risk earthquake zones and the “Ring of Fire.”

Concept Application:

The students will try and predict where an earthquake might happen in the world.

Authentic Assessment:

Assessment through participating in activity.

Assessment/Evaluation:

1. Write a statement explaining the causes of earthquakes.
2. Write a statement explaining a connection between earthquakes and volcanoes.

Extension: Have students stand several nickels on edge at one end of the table. Tell them to slap the other end of the table sharply with one hand. Ask, *Why did the nickels fall over?* (The vibrations moving through the table caused them to fall over.) Relate this to structural damage in earthquakes.

Integration:

1. Language Arts – This activity could be taught with a Language Arts lesson about famous earthquakes or volcanoes.
2. Geography – This may be used in a geography class to study the locations of earthquakes.

Volcanoes

Focus group: Sixth Grade

Setting: Classroom

Goal: Students will have an understanding of why volcanoes erupt.

Objectives: Upon completion of this activity, the student will be able to:

1. Explain what a volcano is.
2. Locate the geographical areas that contain the most volcanoes.
3. Illustrate and explain why a volcano erupts.

Time: One class period

Alignment with IGO's:

Process skills- construction, understanding, investigation
Objectives 6.10, 6.17, 6.18, 6.21

Materials:

1. small glass jar
2. a saucer
3. clay
4. baking soda
5. red food coloring
6. vinegar

Safety: Regular classroom rules and procedures apply

Procedure:

1. Preassessment

- a. Determine knowledge of volcanoes, how they are formed, where they are prevalent.
- b. Discuss volcano terminology.

2. Exploration:

- a. Find a small glass jar. Stand it on a saucer. This will be your volcano.
- b. Cover the sides of the jar with clay to make the volcano.
- c. Carefully fill half the jar with baking soda. Add a few drops of red food coloring. Then add vinegar a spoon full at a time.

- d. Stand back and watch as the mixture bubbles up and over the sides of the volcano.

Concept development:

Students will explain how this volcano works, compare and contrast this model with an actual volcano, and discuss the components and how a real volcano works.

Concept application:

Students will study volcanoes and patterns and locations of eruptions throughout the world.

Authentic Assessment:

Assessment through completing the activity.

Assessment/Evaluation:

- a. Does the experiment work?
- b. Did the student participate?

Extension: Fill a glass with vinegar and add a tablespoon full of baking soda. Drop in mothballs. Bubbles of gas make them rise back to the surface.

Integration:

- a. Geography – Determine the locations of active volcanoes throughout the world
- b. Language Arts – Literature based on or around volcanoes.
- c. Science – Determine why the vinegar reacts with baking soda, and why the mothballs rise to the surface

Flooding

Focus Group: Sixth Grade

Goal: The learner will be able to demonstrate the concept of flooding by soil saturation.

Objectives: Upon completion of this activity, the learner will be able to:

1. Measure the rate at which soil absorbs water.
2. Explain how the rate at which soil absorbs water relate to flooding.

Time: Two Class periods

Alignment with IGO's:

Process skills— Develop framework, Cooperate, Draw conclusions, and Reasoning.

Objectives: 6.1, 6.10, 6.13, & 6.17

Materials:

1. Coffee cans with both ends removed
2. Ruler with centimeter markings
3. Board – 2x4
4. Safety goggles
5. Chalk
6. One-liter bottles
7. Hammer

Safety: During the part of the activity where the students drive the coffee can into the ground, there will be some danger of the students harming themselves with the hammer or having something propelled into an eye. In order to combat this, the instructor will keep a close eye on those students using the hammers. The students using the hammers will wear safety goggles and all other students will stand at least five feet back from that student.

Procedure:

3. Preassessment:

- d. Determine knowledge of flooding by having a class discussion.
- e. Discuss terminology of weather terms associated with flooding: watches, warnings.

4. Exploration:

1. On the outside of the can, draw a mark five centimeters up from one edge.
2. Form a line at the door and wait quietly for the instructor to escort outside.
3. Before the soil is disturbed, describe the location, any plant material present, and the soil condition.
4. When the student uses a hammer, he/she must put on safety goggles and make sure no one is within five feet of them. Place the can on the ground with the marked end down, and place a 2x4 on top of it. Strike the 2x4 with the hammer, sliding the board around to drive the can evenly. When the mark is even with the ground, remove the board and give it and the hammer to the next student.
5. Pour one liter of water into the can and record the time.
6. Make a mark on the can showing the starting height of the water. Measure this mark in centimeters and record it.
7. Mark and measure your water level again in 5, 10, 30, and 60 minutes. These marks will let you know how fast the water is being absorbed by the soil.

Concept Development:

1. Learners will report to class, sharing their data.
2. Comparisons will be made between the class' data and data obtained from other soil types.

Concept Application:

1. Students will study the regularity and conditions under which flooding occurs in their area.
2. Students will then study world wide flood patterns combined with soil composition maps and climate maps and be asked to draw conclusions on these.

Assessment / Evaluation:

1. Write a paragraph explaining how the soil absorption experiment relates to flooding.
2. What do you believe would be the effect on the rate at which the water was absorbed if another liter of water was placed into the can immediately after the first liter had been completely absorbed.

Authentic Assessment:

1. Embedded assessment occurs throughout the exercise.

2. See attached rubric.

Extension:

Discuss the effect of flooding on different cultures and if it is a help or a hindrance.

Integration:

1. Math - This activity works very well in Math classes do the measurements, ability to find rates, and use the information to create graphs.
2. Social Studies, History, Geography - This activity works with conjunction with Social Studies, History, and Geography. It could be used to discuss location and cultures both present and ancient.

Rubric

This rubric will be explained to the learners before the activity has begun.

A=4

- < Participation
- < Procedures Followed
- < Answered the Activity's Questions Correctly
- < Journal Entry Sufficient

B=3

- < Participation
- < Procedures Followed
- < Answered the Activity Questions
- < Journal Entry Attempted

C=2

- < Participation
- < Procedures Followed
- < Activity Questions Attempted
- < Journal Attempted

D=1

- < Participation
- < Procedures Followed
- < Activity Questions Not Attempted
- < Journal Not Attempted

Unsatisfactory = 0

- < Did Not Participate in a Positive Manner
- < Did Not Follow Procedures
- < Did Not Answer Any Questions
- < Did Not Make a Journal Entry

Bibliography

Calder, N. (1974). The Weather Machine, New York, New York: Penguin Books.

Follman, I.L. & Jackson, H. (1979). Basic Science Concepts. St. Louis, Missouri: Milliken Publishing Company.

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Disaster Related Internet Sites

<http://www.weather.com/glossary/>

<http://www.valdosta.peachnet.edu/~titipton/topic.html>

<http://school.discovery.com/spring99/programs/dynamicearth/index.html>

<http://school.discovery.com/spring99/programs/dynamicearth/tlc-hurricane/index.html>

http://www.cookps.act.edu.au/l_disasters.htm

<http://k-6educators.about.com/education/k-6educators/msub130.htm>

<http://www.usgs.gov/education/learnweb/EarthS.html>

<http://www.usgs.gov/education/learnweb/volcano/>

<http://k-6educators.about.com/education/k-6educators/msub111.htm?iam=dp&terms=natural+disasters+lesson+plan>

Master the Disasters!

3. What areas of the United States can flooding occur?
4. What should you do if there is a :
floodwatch or flashflood watch?

flood warning?

flashflood warning?
5. Go to **Flood Disaster Math**. Take the quiz. Report your score here: _____
6. What is the NOAA Weather Radio?

Return to “The Disaster Area”

About Tornadoes

1. Where do tornadoes come from?
2. Go to **Fujita Tornado Scale**.
Describe an F-0 tornado

Describe an F-5 tornado
3. What is “Tornado Alley”?
4. What would be a tornado safe room?
5. Go to **Tornado Disaster Math**. Take the quiz. Record your score here. _____

Return to “The Disaster Area”

About Tsunamis

1. What is a tsunami?
2. How fast can the waves travel?
3. How high can the waves be?

4. What states are at risk for tsunamis?
5. In 1964, an Alaskan earthquake generated a tsunami. What happened?
6. What happened in Hilo, Hawaii in 1946?
7. Tell about the “buoy system”.

Return to “The Disaster Area”

About Hurricanes

1. Where do hurricanes form?
2. What gives hurricanes their energy?
3. What is a storm surge?
4. How are hurricanes classified?
5. What is a category five hurricane?
6. In the United States, what is the official hurricane season?
7. A hurricane watch is
8. A hurricane warning is
9. Go to **Past Major Hurricanes**. Write a paragraph about one past hurricane.

10. Go to **Hurricane Disaster Math**. Take the quiz. Report your score here. _____

Return to “The Disaster Math”

About Disaster Supply Kits

1. How much water should each person in your house have in your kit?
2. What should you store the water in?
3. What kind of food is non-perishable food?
4. What are some suggestions for foods to go into your disaster supply kit? (Name at least 10)
5. What type of clothing and bedding should you have?
6. Name about 10 things that should go in your first aid kit.
7. Where should tools and supplies be kept?
8. Name 10 tools/supplies you should have in your disaster supply kit.

About a Family Disaster Plan

1. Name 3 things your family needs to talk about.